Claims:

What is claimed is:

1.   An availability model for a platform with at least one software component

having different classes of failures, said platform within a network, comprising:

a platform model for said platform; and

a software availability model within said platform model, said software

availability model including an aggregate failure rate for each of said classes of

failures and an aggregated repair time for each of said classes of failures.

2.   The availability model of claim 1, wherein said platform includes platform

parameters.

3.   The availability model of claim 1, further including a hardware component

model within said platform model.

4.   The availability model of claim 1, wherein said aggregate repair time

includes a time to detect and identify an error

5.   The availability model of claim 1, wherein said platform is a node in said

network.

6.   A network model of a network having at least one node, comprising:

a node model for said at least one node;

node parameters for said node model, said node parameters including

a reboot time; and

a software availability model having an aggregated failure rate and an

aggregated repair time for each software component on said at least one node

wherein each software component has different error levels and said software

availability model represents each of said different error levels.

7.   The network model of claim 6, further comprising a hardware component

model for said at least one node.

8.   A method for incorporating a software component into a model of a network,

comprising:

determining failure rates for warm recoverable errors and non-warm

recoverable errors of said software component;

determining recovery rates for warm recoverable errors and non-warm

recoverable errors of said software component;

generating warm recoverable error state parameters from said warm

recoverable error failure rates and said warm recoverable error recovery rates; and

generating non-warm recoverable error state parameters from said non-warm recoverable error failure rates and said non-warm recoverable error recovery rates

9. The method of claim 8, further comprising determining a fraction of recovery failures for said warm recoverable software errors.

10. The method of claim 9, wherein said first generating step includes said fraction of recovery failures for said warm recoverable software errors.

11. The method of claim 8, further comprising determining a fraction of recovery failures for said non-warm recoverable software errors.

12. The method of claim 11, wherein said second generating step includes said fraction of recovery failures for said non-warm recoverable software errors.

13. The method of claim 8, further comprising receiving node recovery parameters.

14. The method of claim 13, wherein said node recovery parameters include node reboot parameters.

15. The method of claim 8, further comprising receiving network recovery parameters, including network reboot parameters.

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16.   A method for modeling a software error within a network model, comprising:

determining a recoverable state for said error;

determining a failure rate for said error;

determining a recovery rate for said error; and

incorporating said failure rate and said recovery rate into said recoverable

state.

17.   The method of claim 16, further comprising determining a fraction of recovery

failures for said error, and incorporating said fraction of repair failures into said

recoverable state.

18.   A computer program product comprising a computer useable medium having

computer readable code embodied therein for incorporating a software component

into a model of a network, the computer program product adapted when run on a

computer to effect steps including:

determining failure rates for warm recoverable errors and non-warm

recoverable errors of said software components;

determining recovery rates for warm recoverable errors and non-warm

recoverable errors of said software component;

generating warm recoverable error state parameters from said warm

recoverable error failure rates and said warm recoverable error recovery rates; and

generating non-warm recoverable error state parameters from said non-warm

recoverable error failure rates and said non-warm recoverable error recovery rates.

19.   A computer program product comprising a computer useable medium having

computer readable code embodied therein for modeling a software error within a

network model, the computer program product adapted when run on a computer to

effect steps including:

    determining a recoverable state for said error;

    determining a failure rate for said error;

    determining a recovery rate for said error; and

    incorporating said failure rate and said recovery rate into said recoverable

state.